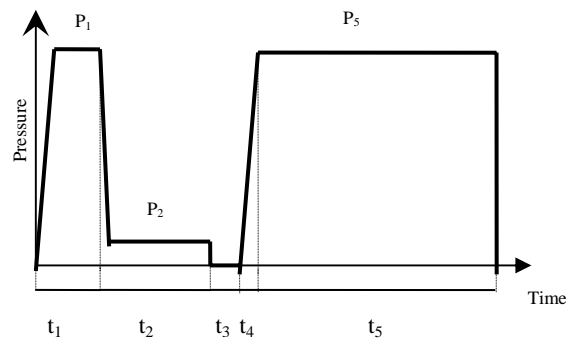
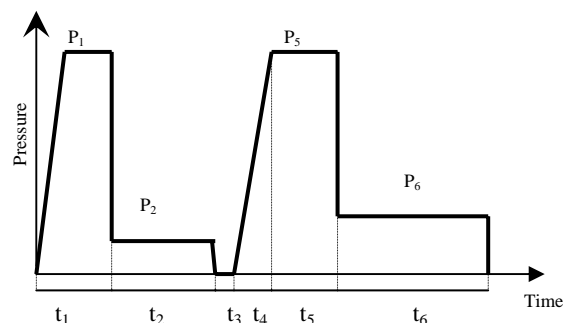


Welding of pipe and/or fittings in $\sigma 80$ PE100 of thickness ≤ 20 mm

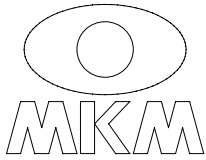


- t_1 : time required for formation of bead P_1
- t_2 : time required for heating P_2
- t_3 : time required for removal
- t_4 : time required for increasing pressure
- t_5 : time required for welding with pressure P_5
- P_1 : pressure for bead formation
- P_2 : pressure during heating
- P_5 : pressure during cooling
- P_7 : cooling

Welding of pipe and/or fittings in $\sigma 80$ PE100 of thickness ≥ 20 mm



- t_1 : time required for formation of bead P_1
- t_2 : time required for heating P_2
- t_3 : time required for removal
- t_4 : time required for increasing pressure
- t_5 : time required for welding with pressure
- t_6 : time required for welding with pressure P_6
- P_1 : initial pressure for bead formation
- P_2 : pressure during heating
- P_5 : welding pressure equals P_1
- P_6 : pressure of reduced welding
- P_7 : cooling

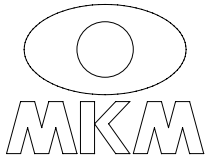


Welding of fittings in $\sigma 80$ PE 100 of thickness ≤ 20 mm

D_{fitting} [mm]	Temp. [°C]	P_1 [Kg]	Thickness [mm]	P_2 [Kg]	t_2 [sec]	t_3 [sec]	t_4 [sec]	P_5 [Kg]	t_5 [min]	P_6 [Kg]	t_6 [min]	t_7 [min]
20	215	3.5	0.9	0.5	50	5	5	3.5	7			6
25	215	5.5	1	1	63	6	6	5.5	8			8
32	215	8.5	1.2	1.5	81	6	6	8.5	9.5			10
40	215	13.5	1.4	2	101	7	7	13.5	11.5			12
50	215	20	1.5	2.5	125	7	8	20	13.5			15
63	215	29.5	1.8	4	157	8	9	29.5	16			19
75	215	33.5	1.9	4.5	163	8	9	33.5	17			19
90	215	48	2	6.5	180	8	10	48	18			22
110	215	71.5	2.4	9.5	228	9	11	71.5	22			28

Welding of fittings in $\sigma 80$ PE 100 of thickness ≥ 20 mm

D_{fitting} [mm]	Temp. [°C]	P_1 [Kg]	Thickness [mm]	P_2 [Kg]	t_2 [sec]	t_3 [sec]	t_4 [sec]	P_5 [Kg]	t_5 [min]	P_6 [Kg]	t_6 [min]	t_7 [min]
125	230	93.5	2.6	12.5	270	10	10	93.5	10(sec)	32	24	31
140	230	118	2.8	16	285	10	10	118	10(sec)	39	27.5	33
160	230	154	3.3	20.5	335	10	10	154	10(sec)	51	30.5	41

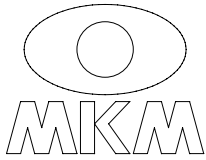


Welding of pipes in $\sigma 63$ PE 80 PN2,5

D _{tubi} [mm]	Temp. [°C]	P ₁ [Kg]	Bordo [mm]	P ₂ [Kg]	t ₂ [sec]	t ₃ [sec]	t ₄ [sec]	P ₅ [Kg]	t ₅ [min]	P ₆ [Kg]	t ₆ [min]	t ₇ [min]
75	200	7	0.7	0.9	24	44	4	7	5			3
90	200	9	0.7	1.2	26	4	5	9	5			3
110	200	13.5	0.8	2	32	5	5	13.5	6			4.5
125	200	18	0.8	2.5	37	5	5	18	6			4.5
140	200	22	0.9	3	42	5	5	22	6.5			5
160	200	29	0.9	4	48	5	5	29	7			6

Welding of pipes in $\sigma 63$ PE 80 PN3,2

75	200	8	0.7	1	29	4	5	8	5			3.5
90	200	11.5	0.8	1.5	33	4	5	11.5	6			4
110	200	17.5	0.8	2	42	5	5	17.5	6.5			5
125	200	22	0.9	3	47	5	5	22	7			6
140	200	27	0.9	3.5	51	5	6	27	7.5			6.5
160	200	36	1	4.5	59	5	6	36	8			7

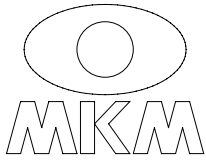


Welding of pipes in $\sigma 63$ PE 80 PN4

D _{tubi} [mm]	Temp. [°C]	P ₁ [Kg]	Bordo [mm]	P ₂ [Kg]	t ₂ [sec]	t ₃ [sec]	t ₄ [sec]	P ₅ [Kg]	t ₅ [min]	P ₆ [Kg]	t ₆ [min]	t ₇ [min]
40	200	3.5	0.7	0.5	24	4	4	3.5	5			3
50	200	4.5	0.7	0.6	24	4	4	4.5	5			3
63	200	7.5	0.7	1	30	4	5	7.5	5.5			4
75	200	10	0.8	1.3	35	5	5	10	6			4.5
90	200	14	0.9	2	42	5	5	14	7			6
110	200	21.5	0.9	3	51	5	5	21.5	7			6
125	200	27.5	1	3.5	59	5	6	27.5	8			7.5
140	200	34	1	4.5	65	5	6	34	8.5			8
160	200	45	1.1	6	74	6	6	45	9.5			9

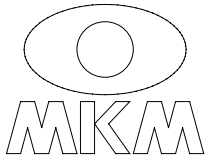
Welding of pipes in $\sigma 63$ PE 80 PN6

40	200	4	0.7	0.5	28	4	4	4	5			3.5
50	200	6.5	0.8	0.8	35	4	5	6.5	6			4
63	200	10	0.8	1.3	47	5	5	10	6.5			5
75	200	14.5	0.9	1.9	53	5	5	14.5	7			6.5
90	200	20.5	1	2.7	61	5	6	20.5	8			7.5
110	200	31	1.1	4	76	6	6	31	9			9
125	200	39.5	1.2	5	85	6	7	39.5	10			10.5
140	200	50	1.3	6.5	96	6	7	50	11			12
160	200	65	1.4	8.5	109	6	7	65	12			13.5



**Welding of pipes in σ 80 PE 100 PN 10
of thickness \leq 20 mm**

D _{pipe} [mm]	Temp. [°C]	P ₁ [Kg]	Thickness [mm]	P ₂ [Kg]	t ₂ [sec]	t ₃ [sec]	t ₄ [sec]	P ₅ [Kg]	t ₅ [min]	P ₆ [Kg]	t ₆ [min]	t ₇ [min]
20	215	1.5	0.7	0.2	21	4	4	1.5	5			3
25	215	2.5	0.7	0.2	24	4	5	2.5	5			3
32	215	3	0.7	0.4	24	4	5	3	5			3
40	215	4	0.8	0.6	29	4	5	4	5.5			4
50	215	6	0.8	0.9	36	5	5	6	6			5
63	215	10	0.9	1.5	45	5	5	10	7			6
75	215	15	0.95	2	54	5	6	15	7.5			7
90	215	21	1	3	65	6	6	21	8			8
110	215	32	1.2	4	79	6	7	32	10			10
125	215	41	1.3	5.5	89	6	7	41	10			11
140	215	52	1.3	7	100	6	7	52	11			12
160	215	67	1.5	9	114	7	8	67	12.5			14



Welding of pipes in $\sigma 63$ PE 80 PN10

D _{tubi} [mm]	Temp. [°C]	P ₁ [Kg]	Bordo [mm]	P ₂ [Kg]	t ₂ [sec]	t ₃ [sec]	t ₄ [sec]	P ₅ [Kg]	t ₅ [min]	P ₆ [Kg]	t ₆ [min]	t ₇ [min]
20	200	1.5	0.7	0.2	24	4	4	1.5	5			3
25	200	2.5	0.7	0.3	28	4	4	2.5	5			3.5
32	200	4	0.8	0.5	36	5	5	4	6			4.5
40	200	6.5	0.9	0.8	44	5	5	6.5	7			6
50	200	10	0.9	1.3	55	5	5	10	7.5			7.5
63	200	16	1	2	69	6	6	16	8.5			9
75	200	22	1.2	3	83	6	6	22	10			10.5
90	200	31	1.3	4	98	6	7	31	11			12
110	200	47	1.5	6	120	7	8	47	13			15
125	200	61	1.6	8	137	7	8	61	14			17

Welding of pipes in $\sigma 63$ PE 80 PN16

20	200	2.5	0.8	0.3	33	4	5	2.5	6			4.5
25	200	3.5	0.8	0.5	42	5	5	3.5	6.5			5.5
32	200	6	0.9	0.8	54	5	5	6	7.5			7
40	200	9	1	1.2	67	5	6	9	8.5			8.5
50	200	14	1.2	1.8	83	6	6	14	10			10.5
63	200	22	1.4	3	104	6	7	22	11.5			14
75	200	31.5	1.5	4	125	7	8	31.5	13			15.5
90	200	45	1.7	6	149	7	8	45	15			18.5
110	200	68	2	9	182	8	10	68	18			23